USSN: 09/875,349

## **LISTING TO THE CLAIMS:**

No claim is amended herein. This listing of claims is provided for the Examiner's convenience.

## 1. - 30. (Canceled)

- 31. (Previously presented) A pharmaceutical composition formulated for human administration and effective in treating a neoplastic disease or eliciting an anti-tumor immunological response, comprising:
  - a) a human cell expressing a cytokine from a recombinant polynucleotide; and
  - b) a pharmaceutical excipient;

wherein the cytokine is stably associated in the cell outer membrane, and wherein the cell has been inactivated to prevent proliferation.

- 32. (Previously presented) The composition of claim 31, wherein the cytokine is selected from IL-4, GM-CSF, IL-2, TNF-α, and M-CSF.
- 33. (Previously presented) The composition of claim 31, wherein the cell is a cancer cell.
- 34. (Previously presented) The composition of claim 31, wherein the cell is from a-tumor of the same tissue type as a tumor in the human.
- 35. (Previously presented) The composition of claim 34, wherein the tumor is an ovarian cancer or a brain cancer.
- 36. (Previously presented) The composition of claim 31, wherein the cell is allogeneic to the human.
- 37. (Previously presented) The composition of claim 31, wherein the cell is histocompatibly identical to the human.
- 38. (Previously presented) The composition of claim 31, further comprising a tumor-associated antigen, wherein the combination of the cytokine and the tumor-associated antigen in the

USSN: 09/875,349

composition is effective in treating a neoplastic disease or eliciting an anti-tumor immunological

response in the human.

39. (Previously presented) The composition of claim 38, wherein the tumor-associated antigen is

obtained from a cell autologous to the human.

40. (Previously presented) The composition of claim 38, wherein the tumor-associated antigen is

expressed by the same cells expressing the membrane-associated cytokine.

41. (Previously presented) The composition of claim 38, comprising a combination of:

a) the cell expressing the membrane-associated cytokine; and

b) a tumor cell autologous to the human;

wherein the combination is effective in treating a neoplastic disease or eliciting an anti-tumor

immunological response in the human.

42. (Previously presented) The composition of claim 41, wherein the tumor cell is a primary tumor

cell dispersed from a solid tumor obtained from the human.

43. (Previously presented) The composition of claim 41, wherein the tumor cell is a glioma, a

glioblastoma, a gliosarcoma, an astrocytoma, or an ovarian cancer cell.

44. (Previously presented) The composition of claim 41, wherein the tumor cell has been inactivated

by irradiation.

45. (Previously presented) The composition of claim 31, wherein the cell expressing the membrane-

associated cytokine has been inactivated by irradiation.

46. (Previously presented) The composition of claim 31, wherein the cell produces a secreted cytokine

in addition to the cytokine stably associated in the outer membrane.

Atty Dkt. No.: IRVN-001DIV USSN: 09/875,349

47. (Previously presented) The composition of claim 31, wherein a majority of the cytokine produced

by the cell is present on the outer membrane of the cell.

48. (Previously presented) The composition of claim 38, wherein the cytokine is selected from IL-4,

GM-CSF, IL-2, TNF- $\alpha$ , and M-CSF.

49. (Previously presented) A composition comprising a tumor associated antigen and a population of

cells expressing a transmembrane cytokine,

wherein the cells have been inactivated to prevent proliferation, and

wherein the composition is effective in stimulating an immune response to the tumor

associated antigen.

50. (Previously presented) A unit dose of the composition according to claim 31, wherein the number

of cells in the composition is at least about  $5 \times 10^6$  but not more than about  $2 \times 10^8$ .

51. (Canceled)

52. (Previously presented) The composition of claim 31, wherein the cytokine naturally occurs as a

membrane cytokine.

53. (Previously presented) The composition of claim 31, wherein the cytokine is a fusion protein

comprising a heterologous transmembrane region.

54. (Previously presented) The composition of claim 31, wherein the cell has been transduced with a

retroviral expression vector, or is the progeny of such a cell.

55. (Previously presented) A method for producing the composition of claim 31, comprising

transducing the cell with an expression vector encoding the membrane-associated cytokine.

56. (Previously presented) The method of claim 55, wherein the expression vector is a retroviral

vector.

USSN: 09/875,349

57. (Previously presented) The method of claim 55, wherein the cytokine is selected from IL-4, GM-CSF, IL-2, TNF-α, and M-CSF.

58. (Previously presented) The method of claim 55, wherein the cytokine is expressed under control

of a cytomegalovirus (CMV) promoter.

59. (Previously presented) The method of claim 55, wherein the cell is from a cancer of the same

tissue type as a tumor in the human.

60. (Previously presented) The method of claim 55, wherein the cell is allogeneic to the human.

61. (Previously presented) The method of claim 55, wherein the cell is histocompatibly identical to

the human.

62. (Previously presented) A method for producing the composition of claim 38, comprising

transducing a cell with an expression vector encoding the membrane-associated cytokine, and

providing the transduced cell in combination with the tumor-associated antigen.

63. (Previously presented) The method of claim 55, further comprising inactivating the cell to prevent

proliferation.

64. (Previously presented) The method of claim 55, further comprising irradiating the cell.

65. (Previously presented) The composition of claim 31, wherein the cytokine is IL-4.

66. (Previously presented) The composition of claim 31, wherein the cytokine is GM-CSF.

67. (Previously presented) The composition of claim 31, wherein the cytokine is M-CSF.

USSN: 09/875,349

68. (Previously presented) A pharmaceutical composition effective in treating a neoplastic disease or

eliciting an anti-tumor immunological response, comprising:

a) a human cell expressing a cytokine from a recombinant polynucleotide; and

b) a pharmaceutical excipient;

. . . . . .

wherein the cytokine is stably associated in the cell outer membrane, and

wherein the composition has been formulated for administration to an allogeneic human subject.

69. (Previously presented) The composition of claim 68, wherein the cytokine is selected from IL-4,

GM-CSF, IL-2, TNF- $\alpha$ , and M-CSF.

70. (Previously presented) The composition of claim 68, wherein the cell is a cancer cell.

71. (Previously presented) The composition of claim 68, wherein the cell is from a tumor of the same

tissue type as a tumor in the human.

72. (Previously presented) The composition of claim 68, further comprising a tumor-associated

antigen, wherein the combination of the cytokine and the tumor-associated antigen in the

composition is effective in treating a neoplastic disease or eliciting an anti-tumor immunological

response in the human.

73. (Previously presented) The composition of claim 72, wherein the tumor-associated antigen is

obtained from a cell autologous to the human.

74. (Previously presented) The composition of claim 72, wherein the tumor-associated antigen is

expressed by the same cells expressing the membrane-associated cytokine.

75. (Previously presented) The composition of claim 72, comprising a combination of:

a) the cell expressing the membrane-associated cytokine; and

b) a tumor cell autologous to the human;

wherein the combination is effective in treating a neoplastic disease or eliciting an anti-tumor

immunological response in the human.

Atty Dkt. No.: IRVN-001DIV USSN: 09/875,349

76. (Previously presented) The composition of claim 75, wherein the tumor cell is a primary tumor

cell dispersed from a solid tumor obtained from the human.

77. (Previously presented) The composition of claim 68, wherein the cell expressing the membrane-

associated cytokine has been inactivated by irradiation.

78. (Previously presented) A method for producing the composition of claim 68, comprising

transducing the cell with an expression vector encoding the membrane-associated cytokine.

79. (Previously presented) The method of claim 78, wherein the expression vector is a retroviral

vector.

80. (Previously presented) The method of claim 78, further comprising inactivating the cell to prevent

proliferation.

81. (Previously presented) The method of claim 78, further comprising irradiating the cell.

82 (Previously Presented) A pharmaceutical composition formulated for human administration and

effective in treating a neoplastic disease or eliciting an anti-tumor immunological response,

comprising:

a) a human cell expressing a cytokine from a recombinant polynucleotide; and

b) a pharmaceutical excipient;

wherein the cytokine is stably associated in the cell outer membrane, and

wherein the cell has been inactivated to prevent proliferation, and wherein the number of cells in

the composition is at least about  $5 \times 10^6$ .